

Participant Questionnaire

Participant number: 3

Date: 28 June 2023

Location: BRESCIA, IT

HRC Study / Algorithms tested: HAMP-S, STAP-PPE, HAMP-P

Study Conducted by: Jared Flowers

Participant link lengths/dimensions: (meters, "spine" is pelvis to shoulder midpoint, "shoulders" is shoulder to shoulder)

Spine	<u> </u>
Neck	<u> </u>
Shoulders	<u>.32</u>

Left Upper Arm	<u>.28</u>
Left Forearm	<u>.25</u>

Right Upper Arm	<u>.28</u>
Right Forearm	<u>.25</u>

Participant joint diameter: (meters)

Left Elbow	<u>.10</u>
Left Wrist	<u>.065</u>

Right Elbow	<u>.10</u>
Right Wrist	<u>.065</u>

Questions:

- A. How safe did you feel? (0 is not safe at all, 5 is neutral, 10 is very safe) 10
- B. Do you think the robot hindered your motions during the task? (0 is robot completely prevented your motions, 5 is neutral, 10 is robot did not impede you motion)
- C. Did the robot perform logical motions? (0 is robot motions made no sense to you, 5 is neutral, 10 is robot motions made sense to you)
- D. What is your overall satisfaction with the HRC task? (0 is you would not work in this HRC cell again, 5 is neutral, 10 is you enjoyed working in this cell with the robot)

Participant number: 3 Date:

For Task 1 (engine parts): (circle your answer to each question)

Task 1, Method 1:										
Question A: (0 is not safe at all, 5 is neutral, 10 is very safe)										
0	1	2	3	4	5	6	7	8	9	10
Question B: (0 is robot completely prevented your motions, 5 is neutral, 10 is robot did not impede you motion)										
0	1	2	3	4	5	6	7	8	9	10
Question C: (0 is robot motions made no sense to you, 5 is neutral, 10 is robot motions made sense to you)										
0	1	2	3	4	5	6	7	8	9	10
Question D: (0 is you would not work in this HRC cell again, 5 is neutral, 10 is you enjoyed working in this cell with the robot)										
0	1	2	3	4	5	6	7	8	9	10

Task 1, Method 2:										
Question A: (0 is not safe at all, 5 is neutral, 10 is very safe)										
0	1	2	3	4	5	6	7	8	9	10
Question B: (0 is robot completely prevented your motions, 5 is neutral, 10 is robot did not impede you motion)										
0	1	2	3	4	5	6	7	8	9	10
Question C: (0 is robot motions made no sense to you, 5 is neutral, 10 is robot motions made sense to you)										
0	1	2	3	4	5	6	7	8	9	10
Question D: (0 is you would not work in this HRC cell again, 5 is neutral, 10 is you enjoyed working in this cell with the robot)										
0	1	2	3	4	5	6	7	8	9	10

Task 1, Method 3:										
Question A: (0 is not safe at all, 5 is neutral, 10 is very safe)										
0	1	2	3	4	5	6	7	8	9	10
Question B: (0 is robot completely prevented your motions, 5 is neutral, 10 is robot did not impede you motion)										
0	1	2	3	4	5	6	7	8	9	10
Question C: (0 is robot motions made no sense to you, 5 is neutral, 10 is robot motions made sense to you)										
0	1	2	3	4	5	6	7	8	9	10
Question D: (0 is you would not work in this HRC cell again, 5 is neutral, 10 is you enjoyed working in this cell with the robot)										
0	1	2	3	4	5	6	7	8	9	10

Comments: EXPERIENCE: [1-10] 9 (researcher)
for question D, in general the robot was too slow
so I had to wait a lot in-between actions.
this is why my rating was low.
For method 2 some paths were too long, ~~too~~
probably they made sense at faster speed though

For Task 2 (Sharework parts: metal tabs, cylinders, pallets): (circle your answer to each question)

Task 2, Method 1:										
Question A: (0 is not safe at all, 5 is neutral, 10 is very safe)										
0	1	2	3	4	5	6	7	8	9	10
Question B: (0 is robot completely prevented your motions, 5 is neutral, 10 is robot did not impede you motion)										
0	1	2	3	4	5	6	7	8	9	10
Question C: (0 is robot motions made no sense to you, 5 is neutral, 10 is robot motions made sense to you)										
0	1	2	3	4	5	6	7	8	9	10
Question D: (0 is you would not work in this HRC cell again, 5 is neutral, 10 is you enjoyed working in this cell with the robot)										
0	1	2	3	4	5	6	7	8	9	10

Task 2, Method 2:										
Question A: (0 is not safe at all, 5 is neutral, 10 is very safe)										
0	1	2	3	4	5	6	7	8	9	10
Question B: (0 is robot completely prevented your motions, 5 is neutral, 10 is robot did not impede you motion)										
0	1	2	3	4	5	6	7	8	9	10
Question C: (0 is robot motions made no sense to you, 5 is neutral, 10 is robot motions made sense to you)										
0	1	2	3	4	5	6	7	8	9	10
Question D: (0 is you would not work in this HRC cell again, 5 is neutral, 10 is you enjoyed working in this cell with the robot)										
0	1	2	3	4	5	6	7	8	9	10

Task 2, Method 3:										
Question A: (0 is not safe at all, 5 is neutral, 10 is very safe)										
0	1	2	3	4	5	6	7	8	9	10
Question B: (0 is robot completely prevented your motions, 5 is neutral, 10 is robot did not impede you motion)										
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Question C: (0 is robot motions made no sense to you, 5 is neutral, 10 is robot motions made sense to you)										
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Question D: (0 is you would not work in this HRC cell again, 5 is neutral, 10 is you enjoyed working in this cell with the robot)										
0	1	2	3	4	5	6	7	8	9	10

Comments:

In this case the robot moved faster so it was a bit more enjoyable. I felt secure even ~~in the case~~ when the end effector passed very close to my face because it conveniently stopped in-between motion (don't know if it was intended though)

Participant number: 3 Date: 29 June 2023